REMARKS

Claims 1-20 are pending in this application and all claims stand rejected.

Claims 1, 10, 18 and 20 have been amended to specify that the display medium is (a) bistable and (b) capable of changing its optical state upon application of an electric field thereto. Support for these limitations is found throughout the specification and drawings. For example, Paragraphs 8 and 9 specifically recite that the display medium may be bistable, while Figure 4A and the related description in Paragraph 53 describe how the display medium changes its optical state upon application of an electric field thereto. Claim 6 has been amended by way of explanation to specify that the electrophoretic medium comprises at least one species of particles dispersed in a fluid medium; basis for this amendment is found, for example in Figure 4A and Paragraph 53. Claim 7 has been made dependent on claim 6, thus effectively importing the additional feature added to claim 6 into claim 7 also. Claim 11 has been amended by way of clarification to refer to "at least one electrode on the receiving surface". Claims 14 and 15 have been amended in a manner parallel to claims 6 and 7 respectively.

No new matter is introduced by any of the foregoing amendments.

In response to the 35 USC 112 rejection set out in Section 4 of the Office Action, claim 11 has been amended to refer to "at least one electrode on the receiving surface" to show that this electrode is one or more of the electrodes referred to in claim 10. It is respectfully submitted that this amendment must be sufficient to overcome the 35 USC 112 rejection.

Claims 1-4, 6, 10, 12 and 20 stand rejected under 35 USC 102(b) as anticipated by Kazan, U.S. Patent No. 3,825,791. This rejection is traversed. More specifically, this rejection is traversed on the grounds that (a) Kazan does not in fact disclose a display comprising an adhesive layer and (b) the phosphor layer in the Kazan display is not an optoelectrically active display as that term is used in the present claims.

Kazan describes a cathode ray tube with a removal phosphor. As illustrated in Figure 1 of Kazan, the replaceable phosphor display medium 31 comprises

an insulating layer 33, a conductive layer 35 and an electroluminescent or phosphor layer 37 (see column 5, lines 3-13). Thus, as illustrated in Figure 1, the replaceable medium does not include an adhesive layer, as required by all the present claims.

The Office Action directs attention to column 5, lines 18-25, which states that "the medium may be adhered to the outer surface of the tube faceplate by any suitable insulating adhesive *which will accommodate ease in removal*" (emphasis added). Kazan does not specify whether the adhesive is placed on the medium or on the faceplate, but for several reasons the latter is intended. Firstly, if the adhesive were part of the removable medium, one would expect it to have been drawn as such in Kazan's Figure 1, and it is not. Secondly, the italicized phrase above implies removal of the medium from the adhesive, rather than removal of a medium/adhesive combination from the faceplate. Thirdly, and most importantly, putting a continuous layer of adhesive in the removable medium would appear to interfere with operation of the Kazan apparatus. It is clear from Kazan (see for example the Abstract) that for proper operation the cathode ray tube requires current flow through the conductive pins 27 and the caps 29 to the electroluminescent or phosphor layer 37. Interposing a layer of adhesive between the caps 29 and the layer 37 would interfere with this current flow. If the adhesive were placed on the faceplate, it would be relatively easy to pattern the adhesive so as to avoid covering the caps 29, using these caps as a guide to patterning. However, if the adhesive were placed on the medium itself, it would be necessary not only to pattern the adhesive without any visible markers to assist such patterning, but also to effect a difficult alignment of the flexible medium bearing the patterned adhesive with the faceplate so as to avoid placing adhesive over the caps 29. Accordingly, the references to the use of adhesive in Kazan logically refer to placing the adhesive on the faceplate, not on the replaceable medium itself, and hence Kazan does not anticipate any of the claims of the present application.

Furthermore, the phosphor layer in the Kazan display is not an optoelectrically active display as that term is used in the present claims. The present

claims require that the display medium be capable of changing its optical state upon application of an electric field thereto. The phosphor described in Kazan is not of this type but requires substantial flow of current from the electron gun 9 through the conductive pins 27 and the caps 29 to the electroluminescent or phosphor layer 37. For this reason also, Kazan does not anticipate any of the claims of the present application.

Claims 1-4, 10, 12, 16, 18 and 20 stand rejected under 35 USC 103(a) as unpatentable over Rothschild et al., U.S. Patent No. 5,802,015, in view of Sato et al., U.S. Patent No. 5,173,342. This rejection is traversed. More specifically, this rejection is traversed on the grounds that the combination of Rothschild and Sato would not produce a display using a bistable display medium, as required by all the present claims.

Applicants do not dispute the summary of Rothschild given in the Office Action but note that both Rothschild and Sato relate solely to liquid crystal displays, which are not bistable. There is nothing in either Rothschild or Sato to suggest substituting a bistable medium for the liquid crystal medium used in both references, but in fact substituting a bistable medium for the liquid crystal in the Rothschild display would yield substantial advantages. Rothschild describes an electronic timing label for indicating the expiry of a time period associated with a particular article (see the Abstract), for example the expiration date of a pharmaceutical (see column 1, lines 32-36). Rothschild recognizes the need for a timing label with a long operating life and hence low power consumption (column 2, lines 58-64) yet still builds the timing label using a liquid crystal medium, which (as the Examiner is no doubt aware) needs to be driven continuously to maintain the desired display. This is potentially dangerous, since the label could fail to give the desired indication if the battery is exhausted. By using a bistable medium in accordance with the present invention, with greatly reduced power consumption and with persistence of the warning message for a substantial period after power is cut off, the present invention provides a greatly enhanced degree of safety as compared with the Rothschild label.

The various 35 USC 103 rejections set out in Sections 7, 8 and 9 of the Office Action are traversed for the same reasons as the rejection of claim 1 based upon Rothschild and Sato as discussed above. However, there are additional reasons why some of the dependent claims are not obvious over the applied references, as discussed below.

Firstly, as noted above, claims 6 and 14 have been amended to define more precisely the electrophoretic medium. Given these amendments in claims 6 and 14, and the resultant inherent limitation of claims 7 and 15, it should readily be apparent that Sheridon, U.S. Patent No. 4,216,854 does not describe an electrophoretic medium as that term is used in the present claims, and hence that claims 6, 7, 14 and 15 are patentable over Rothschild, Sato and Sheridon.

Secondly, with regard to Section 9, Brody, U.S. Patent No. 6,285,343, does not disclose a conductive via extending through a display medium. Brody describes a modular flat screen television display formed from a two dimensional array of discrete liquid crystal display modules which must (although Brody admittedly does not discuss this point in detail) be individually sealed to prevent escape of the liquid crystal medium therefrom. The interconnecting conductor 30 mentioned in the Office Action extends between adjacent modules to provide interconnections between these modules. Since this interconnecting conductor 30 is spaced from the liquid crystal medium by the material used to seal the individual modules, the conductor 30 does not extend through the medium.

The 35 USC 103 rejection of claims 1, 10 and 16-20 as unpatentable over Matsubara in view of Iwashita is traversed for the reasons already stated in the Amendment filed with the Request for Continued Examination. In response to the first paragraph on page 8 of the Office Action, it is respectfully noted that, on its face, Figure 1 of Matsubara shows the area in which the flexible board 2 (shown at the top of Figure 1) overlies the glass board 4 (shown at the bottom of Figure 1), and it will be seen from Figure 2 that Figure 1 thus shows only a very limited area of the display which is spaced from the area 1 in which the liquid crystal medium is present (note the positioning of the

section line I-I' in Figure 2). Accordingly, the adhesive 8a shown in Figure 1 does not underlie the liquid crystal medium as is required by the present claims.

For the foregoing reasons, the 35 USC 102 and 103 rejections in the Office Action are unsound and should be withdrawn.

Since the normal period for responding to the Office Action expired June 23, a Petition for a three month extension of this period is filed herewith.

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